



Data Communications Services
put your company in touch with itself

Cover illustration: Map is superimposed on a Moebius band—a unique geometric form that has one unending surface and only one edge. It symbolizes the control many businesses are getting over diversified operations through a unified systems approach. Moebius bands belong to a branch of mathematics, called topology, which is often used to solve complex problems in communications network planning and circuit design.



A hundred years ago it was easy to keep in touch with your business. You wrote down every transaction as it occurred. You could find out anything you wanted to know just by reaching for your ledger book.

Today, business facts and figures are no longer an arm's length away. And no matter how fast they can be processed, their timeliness may be gone by the time they can be sent to where they're needed . . .

A production schedule in Omaha may have to wait for inventory figures in Los Angeles.

An assembly line in Dallas may be governed by a sales analysis in St. Louis.

A financial report in New York may depend on cash balances collected from a dozen branch offices across the country.

For today, whether a business centralizes or decentralizes its operations, decisions are increasingly separated by time and distance from the information on which they are based. Suddenly, many business problems are becoming communications problems.

Bell System Data Communications is a management aid that helps solve these problems.

It's an aid that helps make data transmission an integral part of your total information system.

It's an aid that considers your future communications needs as carefully as it does your present communications problems.

Above all, it's an aid that enables you to make use of your data—not just for record-keeping, but for closer operational control . . . not just for detailing problems, but for solving them.



The business communications network that spans the nation

The telephone . . . pick it up and the most remote corner of the country is only a fraction of a second away from the sound of your voice.

You use it every day in your business to exchange information, to implement decisions, to keep up with developments far from your office.

For the Bell System telephone service is a vast communications network that puts you in instant touch with places it would take hours—or days—to reach by any other means.

Now this network is being used to carry huge volumes of business data as quickly as it carries your voice.

Through Bell System Data Communications, business machines are talking across a thousand miles as easily as they do from one end of a room to the other.

And they are talking at speeds up to 2500 words a minute—considerably more when private lines are used.

Even moderate-speed data communications equipment can send a complete store inventory across the country in a matter of minutes—a list that would take hours to read over the phone, days to ship by conventional means.

But Bell System Data Communications means much more than moving data quickly and economically. New areas of management control are opened up when distance no longer stands between fact and decision, when time no longer separates action from reaction. For Data Communications puts your business in touch with itself. It enables your business to respond quickly—to change . . . to growth . . . to new opportunities.



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Faster Data Communications serve every area of business management

It's easy to see many of the immediate advantages that low-cost Data Communications Services offer . . .

You can give customers faster service by eliminating the "distance lag" that slows down orders and inquiries.

You can process your data from a central location . . . or at outlying points—whichever is most efficient for your business operation.

You can spread out the load on your business machines by processing data almost as soon as it becomes available, rather than having to wait for batch deliveries.

But the real value of Data Communications Services lies in the area of operational control. Fast data flow means receiving information while it's still live. It means being able to make decisions based on what "is" . . . not what "was". It means being able to integrate all business operations—sales forecasting, purchasing, inventory control, production scheduling, accounting, sales analysis—into a single, quickly responsive system.

Faster data flow may mean cutting the time between orders and shipments . . . or faster reporting of cash balances and credit information . . . or keeping inventories bone-low without interfering with prompt order filling.

In thousands of such applications, Bell System Data Communications Service is giving customers all over the country the fast management reflexes that enable them to compete more efficiently in today's changing market situations.

for example . . .

An appliance manufacturer's central supply center uses data communications to call each distributor twice a week. The distributor feeds pre-punched cards into a card reader and transmits orders back to the manufacturer. A central computer processes the orders and compiles shipping lists. Through this system, the company has been able to reduce order-handling time from six days to one. Paperwork has been cut 66 percent. Inventories have been substantially reduced without interfering with customer service.

A nationwide mutual insurance company has set up a 36-point communications network to transmit records of premium payments, claims, new policies and accounting information to the company's central computer via Bell System equipment. A new customer now receives his policy within two or three days from the time he signs an application. Operational data that took six to seven days to arrive by mail is now reported daily. And the new system is designed to accommodate an estimated 100 percent increase in volume within the next seven years.

An aircraft company communicates with four installations scattered from coast to coast by means of an integrated system that combines a variety of data communications equipment. This equipment is used not only for sending and receiving messages throughout the nation, but also for collection of information for bulk transmission between company installations. The new system replaces 12-hour, five-day-a-week service with 'round-the-clock service, yet saves the company more than \$20,000 a year. And the combination of Data Communications Services has given the company considerably more flexibility than was possible before.

A food processor with two subsidiary plant locations wanted to centralize such data functions as statistical reporting, inventory control and payroll. Previously this data had been mailed in and converted to punched cards manually. Reports were a week old by the time they were made up. Now, with the help of Bell System Data Communications equipment, the company gets daily reports, has been able to reduce inventory costs, and has eliminated much duplicate payroll equipment. The company now closes its books eight days earlier each month.

A savings institution handles 13,000 transactions daily through its main office and six branches. The company has installed an on-line data communications system to connect teller windows at all its locations with a central computer. Tellers now can check and up-date accounts immediately from any location, with no manual bookkeeping. Transaction processing has been reduced 30%, back office teller work by more than 90%. Tellers can handle two customers in the time it used to take for one.

A stack of ten compact disc (CD) cases, viewed from a slightly elevated angle. The discs are silver and have concentric rings. Each disc has a small, rectangular label with a business function name. The labels are arranged in a vertical column, with each label on a different disc. The labels are: PURCHASING (blue), SALES ANALYSIS (orange), SALES FORECASTING (blue), ACCOUNTING (blue), PAYROLL (yellow), INVENTORY CONTROL (blue), and PRODUCTION (orange). The stack is set against a plain, light-colored background.

PURCHASING

SALES ANALYSIS

SALES FORECASTING

ACCOUNTING

PAYROLL

INVENTORY CONTROL

PRODUCTION

Data Communications begins here...

DATA-PHONE Service helps put the vast Bell System network at your service. It provides the vital link between business machines—the means to speed information from where it originates to where it must go to prove of value.

It's flexible. It can handle data in the form of punched cards, paper tape, magnetic tape—in whatever form your own business machines may require.

It can send or receive graphic data, such as sketches or signed documents.

And it's economical!

The wide range of transmission speeds assures that you pay only for the kind of service your data needs require.

Wide Area Telephone Service (WATS) provides a further economy—WATS divides the country into "areas" and charges are made on a full-time or measured-time basis.

Using DATA-PHONE Service is as simple as making a telephone call.

Your DATA-PHONE equipment converts business machine signals to tones that are sent over regular telephone lines.

DATA-PHONE equipment at the other end changes the transmitted tones back into whatever signal the receiving business machine requires.

DATA-PHONE equipment can work with the simplest card reader or the most advanced electronic computer.

These are the DATA-PHONE Services and equipment now serving business in every part of the country:

DATA-PHONE Data Set Series 100

Sends or receives data at speeds up to 300 words a minute. Series 100 equipment can be connected with teletypewriter and other business machines for one- or two-way operation.

DATA-PHONE Data Set Series 200

A medium-speed data set that works with a large variety of business machines. This almost-universal data communications equipment can accept signals from business machines that use punched tape, punched cards or magnetic tape — at up to 2500 words a minute. It also enables computers to exchange data directly, with no need for converting the data to cards or tape in between.

DATA-PHONE Data Set Series 400

A compact, low-cost data set designed primarily for one-way data gathering. Series 400 equipment enables punched-card and tape data to be sent at speeds up to 75 characters per second. It can also be used in unattended operations, automatically sending data on request to a central location.

DATA-PHONE Data Set Series 600

Operates with business machine equipment to transmit handwritten messages, signed orders and requisitions. It is also available to use with facsimile equipment for transmitting drawings, sketches, diagrams and other documents.

Other Bell System Data Communications services...

DATASPEED Tape-to-Tape System

A high-speed, low-cost system for sending and receiving data in punched tape form. DATASPEED systems operate at 750 and 1050 words a minute, ten times the speed of standard teletypewriter tape transmission.

TELETYPEWRITER SERVICES

Now DATA-PHONE Service makes possible teletypewriter transmission over regular phone lines.

Regular Bell System services for teletypewriter users include:

TWX (Teletypewriter Exchange Service)—a nationwide dial-up network for teletypewriter and low-speed business machines. TWX stations are particularly suitable for low and medium volumes. Charges are per call, as with regular telephone calls.

Private Line Teletypewriter Services—for teletypewriter users with special needs requiring private systems. A direct, fast and efficient way to tie business operations together with written communications. Messages can be transmitted and received in punched paper tape form over lines reserved for a company's exclusive use, 24 hours a day, every day of the week.

Wide-Band Data Services for Ultra-High Speeds

Telpak is a form of private line service which offers large communication capacities at low unit cost.

Telpak leased-line installations provide high volume transmission at low unit cost. With the proper business machines speeds as high as 62,500 characters per second or eight facsimile pages per minute are easily provided.

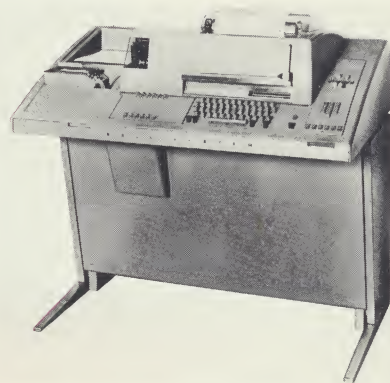
One Telpak channel may be equivalent to 12, 24, 60, or 240 voice circuits, according to the user's requirements. Telpak channels may be used as individual voice channels and, on an alternate basis, as one wide-band channel. For example, they may be used during the day for normal business communication and, at night, as a wide-band channel for ultra high-speed data or facsimile transmission.

Other Leased-Line Services

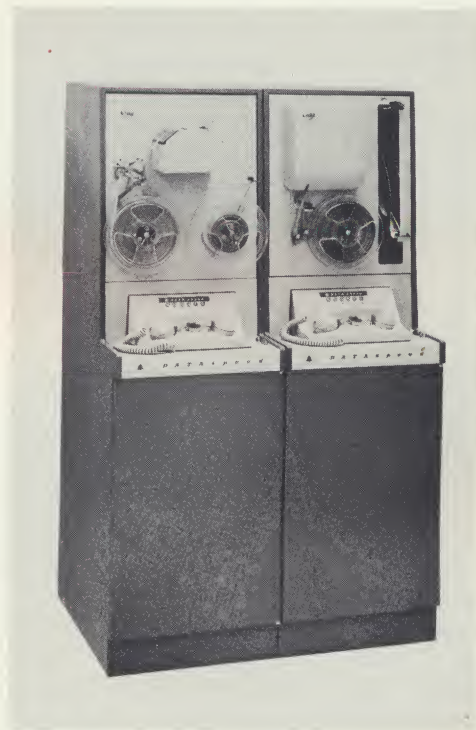
Tie lines and Foreign Exchange lines now may also be used for data transmission. Often these leased lines are used for voice communications by day and data transmission after normal business hours.



TELETYPEWRITER



DATA-PHONE Data Sets



DATASPEED Tape-to-Tape System

When should your company start using data communications services?

How to recognize the symptoms...

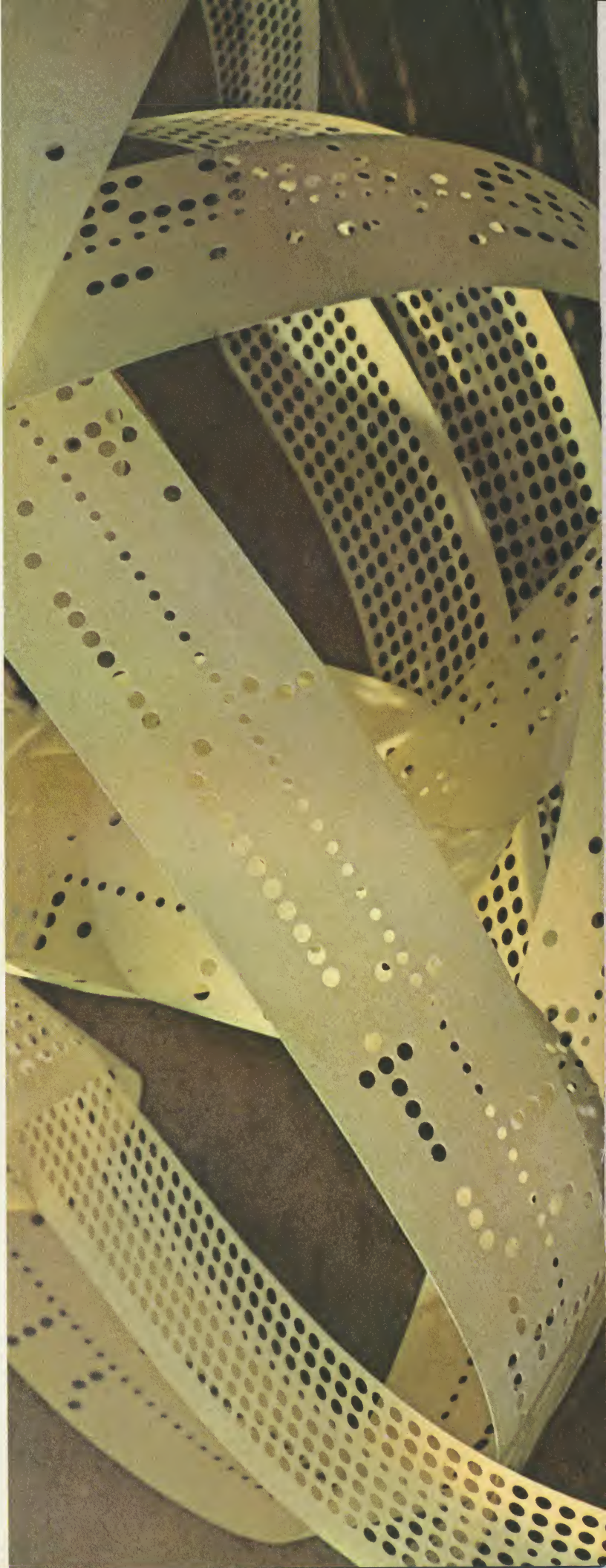
In data communications, each business has its own needs . . . its own problems. They don't necessarily depend on the size of the company, or even the distance its data has to travel.

How can you tell if your business is outstripping its ability to communicate with itself?

How can you tell if you can profit from Bell System Data Communications Services?

You might begin by looking for signs like these—

- Data processing facilities overloaded one day—waiting for work the next.
- An increasingly expensive "safety factor" in inventory or financial reserves to cover changes that can't be reported quickly enough.
- Growing complaints about the accuracy of orders and other data that must pass through several processing locations.
- Customer service that deteriorates as volume grows.
- Data that must be converted and reconverted continually as it moves from one location to another.
- Increasingly costly duplication of data needed for central record-keeping—or central data needed for branch management.
- Management reports arriving too late to be used in reaching decisions.





...and the opportunities

A problem is easy to spot. But what does an opportunity look like?

Many of the most compelling benefits of Data Communications Services lie in the opportunities it can unlock for your business.

Opportunities for growth . . . Opportunities for new markets . . . Opportunities for a brighter profit picture and a better competitive position.

Your Bell System Communications Consultant is especially qualified to help you capitalize on these opportunities.

He can help you analyze your data needs.

He can give you expert advice about the communications facilities and equipment available to serve those needs.

Most important of all, he can help bring a unified systems approach to the solution of your data handling problems—present and future.

For this reason, your Bell System Communications Consultant is a man you should see early—while your data needs are still flexible. Let him help you take advantage of the opportunities offered by the new science of data communications. Above all, let him show you how careful communications analysis and planning can be applied effectively to your own business problems . . . resulting in impressive increases in efficiency and profit.

